

Aquifer Protection Permit P-512392

PLACE ID 2433, LTF 66788

Praxair, Inc.

The Arizona Department of Environmental Quality (ADEQ) proposes to issue an aquifer protection permit (APP) authorizing closure of a Gravel Bed Drainage Field located at the Praxair, Inc. facility, pursuant to Arizona Administrative Code (A.A.C.) R18-9-A213. This document gives pertinent information regarding the issuance of the permit.

## I. FACILITY INFORMATION

### Name and Location

Permittee's Name:	Praxair, Inc.
Mailing Address:	P.O. Box 6157 Kingman, Mohave County, Arizona 86401
Facility Name and Location:	Praxair, Inc. 3426 West Griffith Road Kingman, Mohave County, Arizona 86401

### Regulatory Status

The ADEQ had reviewed a Determination of Applicability (DOA) application received on March 29, for a gravel bed drainage field located at the Praxair Inc. facility. Based on the information submitted in the DOA application, ADEQ determined that an APP will be required for the disposal of reverse osmosis reject water, cooling tower and boiler blow down, air drier condensate and fire sprinkler water to the gravel bed drainage field. Praxair, Inc. subsequently submitted an APP application to close the gravel bed drainage field on August 31, 2017.

### Facility Description

The Praxair facility is an arsine gas manufacturing and filling process facility developed on approximately 18-acres of fenced area on approximately 188 acres of land. Arsine is synthesized by the reaction of mixing zinc arsenide with sulfuric acid to produce zinc sulfate and pure arsine gas. Process water generated at the facility, including scrubber discharges, is disposed off-site. Other waste streams include reverse osmosis (RO) reject water, cooling tower and boiler blowdown, air drier condensate, and fire sprinkler test water. These waste streams were discharged to a gravel bed drainage field located south adjacent to the southern fence line.

### Proposed Closure Activities

The closure activities described in this section shall be completed as per the supporting document submitted with the APP application dated August 2017. Two

soil borings shall be drilled including one adjacent to the drain line approximately 3 feet west, near the center of the drain line, and the second soil boring located approximately 16 feet south of the drain line. These two soil borings shall be drilled to a depth of 30 feet below ground surface. In addition to the soil boring located adjacent to the drain line, one sample shall be collected of the gravel drainage bed using a hand auger or a drill rig. A third boring shall be drilled north of the facility midway along the access road to obtain background subsurface characteristics. This borings shall be drilled to a depth of 20 to 30 feet. Soil samples shall be collected at 10 foot intervals, or at the interval(s) where indication of staining or elevated vapor concentrations are registered on a photoionization detector (PID).

The samples shall be analyzed for the following parameters as per Section 2.3.1 of the APP:

- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Metals (antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, thallium)
- pH
- Nitrate as N and Nitrite as N
- Total Kjeldahl Nitrogen (TKN)
- Total petroleum hydrocarbons, diesel and oil range organics (DRO/ORO)

## **II. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY**

The Gravel Bed Drainage Field scheduled for closure consists of a 50 feet long, four-inch perforated PVC leach pipe, buried approximately 3 feet below ground surface and underlain by three foot by three foot bed of leach rock.

Closure activities shall eliminate, to the greatest extent practicable, any reasonable probability of further discharge from the facility and shall ensure that no additional degradation of the aquifer at the applicable point of compliance will occur.

## **III. COMPLIANCE WITH AQUIFER WATER QUALITY STANDARDS**

### **Points of Compliance**

No point of compliance (POC) wells are required to be installed at this time.

One conceptual hazardous / non-hazardous POC location has been designated for this facility as follows:

<b>Name: Location Description</b>	<b>Latitude</b>	<b>Longitude</b>
POC # 1: Conceptual POC located approximately 16 feet south-southwest of the drain line	35° 1' 38.15" N	114° 8' 10.22" W

## **IV. STORM WATER AND SURFACE WATER CONSIDERATIONS**

Not applicable.

## **V. COMPLIANCE SCHEDULE**

Section 3.0 of the APP contains three compliance schedule items relating to submittal of an addendum to the Clean Closure Work Plan, completion of sampling activities to demonstrate clean closure has been achieved, and submittal of a report.

## **VI. OTHER REQUIREMENTS FOR ISSUING THIS PERMIT**

### **Technical Capability**

Praxair, Inc. has demonstrated the technical competence necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A202(B).

### **Financial Capability**

Praxair, Inc. has demonstrated the financial responsibility necessary to carry out the terms and conditions of the permit in accordance with A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability until the closure of the Gravel Bed Drainage Field has been completed, and ADEQ has provided a permit release. The estimated closure cost is \$41,086. The financial assurance mechanism was demonstrated through a performance surety bond pursuant to A.A.C. R18-9-A203.C.2.

## **VII. ADMINISTRATIVE INFORMATION**

### **Public Notice (A.A.C. R18-9-108(A))**

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft permit or other significant action with respect to a permit or application. The aquifer protection program rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to ADEQ. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit.

### **Public Comment Period (A.A.C. R18-9-109(A))**

The Department shall accept written comments from the public prior to granting the significant amendment. The written public comment period begins on the publication date of the public notice and extends for 30 calendar days. After the closing of the public comment period, ADEQ is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

**Public Hearing (A.A.C R18-9-109(B))**

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

**VIII. ADDITIONAL INFORMATION**

Additional information relating to this proposed permit may be obtained from:

Arizona Department of Environmental Quality  
Water Quality Division – Groundwater Protection  
Attn: Vimal Chauhan  
1110 W. Washington St., Mail Code 5415B-3  
Phoenix, Arizona 85007  
Phone: (602) 771-4362